



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/732,804

12/11/2003

Tae-Hee Cho

P-0622

5887

34610 7590 03/20/2007
KED & ASSOCIATES, LLP
P.O. Box 221200
Chantilly, VA 20153-1200

EXAMINER

ALEJANDRO, RAYMOND

ART UNIT

PAPER NUMBER

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/732,804

Applicant(s)

CHO ET AL.

Examiner

Raymond Alejandro

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 34-56 is/are pending in the application.
- 4a) Of the above claim(s) 44-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 34-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/11/03 & 07/16/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Species Ia (claims 1-3 and 34-43) in the replies filed on 12/20/06 and 03/05/07 is acknowledged. The traversal is on the ground(s) that *“the subject matter of each of the designated inventions is sufficient related that a thorough search for the subject matter of each of the designated inventions would encompass a search for the subject matter of the remaining designated inventions. Thus,....the search and examination of the entire application could b made without serious burden”*. This is not found persuasive because the restriction requirement dated 11/21/06 set out three separate and distinct inventions identified as Group I to electrodes classed in 204/284, Group II to an electrochemical cell itself classed in 429/40 and Group III to electrode fabricating methods classed in 502/101.

In establishing the burden, the examiner relies first on the definition of distinct or independent inventions by virtue of the relationship between Group I-Group II, which were identified to be related as combination and subcombination; Group I-Group III related as process of making and product made and Group II-Group III as being unrelated (*See Restriction Requirement dated 11/21/06 for more information about how the distinctness criteria is met for each specific group combination*); and second by the guidelines established in **MPEP 808.02 [R-3] Establishing Burden** setting forth that serious burden is present if at least one of following criteria is met:

A) each invention has attained recognition in the art as a separate subject for inventive effort, and also a separate field of search (*Separate classification thereof*); and/or

Art Unit: 1745

B) it is necessary to search for one of the inventions in a manner that is not likely to result in finding art pertinent to the other invention(s) (e.g., searching different classes /subclasses or electronic resources, or employing different search queries, a different field of search is shown, even though the two are classified together (*A different field of search*); and/or

C) each invention can be shown to have formed a separate subject for inventive effort when the examiner can show a recognition of separate inventive effort by inventors, this can be established by at least showing a separate field of search (*A separate status in the art when they are classifiable together*).

In the instant case, Groups I, II and III are deemed to meet at least serious burden criteria A) and B) above as well as the criteria for distinctness of invention as set forth in the 11/21/06 Restriction Requirement.

The requirement is still deemed proper and is therefore made **FINAL**.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c). *See information of inventor 6th or 2nd inventor on page 4 of the submitted declaration.*

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 66. Corrected

Art Unit: 1745

drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show reference numeral 31 and 32 in Figure 4 as described in the specification (Refer to page 7 line 24). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either

Art Unit: 1745

“Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a) because they fail to show reference numeral 60 in Figure 6 as described in the specification (Refer to page 8 line 17). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to under 37 CFR 1.83(a) because they fail to show reference numeral 50 in Figure 6 as described in the specification (Refer to page 10 line 7). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in

Art Unit: 1745

the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The substitute specification filed 07/16/04 has been entered because it does conform to 37 CFR 1.125(b) and (c).
8. The disclosure is objected to because of the following informalities: description of Figure 1 in the specification (for instance, page 5 at line 9) does not identify such a figure as Prior/Conventional Art. Appropriate correction is required.
9. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Art Unit: 1745

Claim Objections

10. Claim 43 is objected to because of the following informalities: abbreviated form of polymeric compound "PTFE" should be changed to its unabbreviated form. Appropriate correction is required.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1745

14. Claims 1-2, 35-38 and 41-43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Applicant Admission of Prior Art (heretofore the AAPA) (*US Patent Application Publication 2005/0130026 is referenced herein as its disclosure is identical to applicant's specification*).

The present invention is to an electrode wherein the disclosed inventive concept comprises the specific combination of the electrode catalyst and the catalyst holding body.

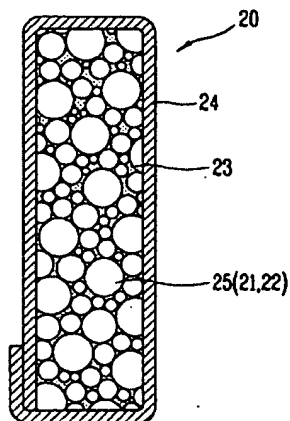
With respect to claim 1:

The AAPA makes known an electrode structure including a foam body 23 made of Ni in which mixture of electrode catalyst particles 21 made of metal halide (MH), and polytetrafluoroethylene 22 is infiltrated, and a mesh 24 made of Ni enclosing the foam body 23 (*See applicant's specification on page 3, lines 10-25/ FIGURE 2*).

The AAPA discloses in detail, a granule type electrode catalyst 21 and PTFE 22 mixed to a mixture 25 which is infiltrated in the foam body 23 to fill the void parts of the foam body 23; wherein the foam body 23 filled with the mixture 25 is enclosed by the mesh 24 which maintains the shape of the foam body 23 (*See applicant's specification on page 3, lines 10-25/ FIGURE 2*). *In this case, it is contended that either or both the foam body 23 and the mesh 24 act(s) as the claimed catalyst holding body; yet further, infiltration of the electrode catalyst granule-PTFE mixture in the foam body 23 encompasses certain degree of entanglement or wrapping or twisting. Note that the term "entangle" only means to wrap or twist together (Merriam-Webster's Collegiate Dictionary 10th Edition) but does not suggest any specific material and/or structure.*

Figure 2 below illustrates the conventional electrode structure disclosed by the applicant (See FIGURE 2).

FIG. 2
CONVENTIONAL ART



Examiner's note: additionally, it is noted that the instant claims are being construed as product-by-process claims (i.e. being entangled has not been given patentable weight) and that the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. In that, it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art. *In re Thorpe* 777 F.2d 695, 698, 227 USPQ 964,966 (Fed Cir. 1985) and MPEP 2113. As a result, the process steps of a product-by-process claim do not impart any significant property or structure to the claimed end product. And, if there is any difference, the difference would have been minor and obvious. Therefore, the present claims are unpatentable over a reference that satisfies the claimed compositional or physical or property or structural limitations, and/or a reference that discloses a product made by a process that reasonably substantially comprises every limitation of the claimed process.

Art Unit: 1745

With respect to claim 2:

The AAPA discloses a granule type electrode catalyst 21 (*See applicant's specification on page 3, lines 10-25/ FIGURE 2*).

With respect to claims 36-37:

The AAPA uses electrode catalyst particles 21 made of metal halide (MH) (*See applicant's specification on page 3, lines 10-25/ FIGURE 2*). It is noted that a metal halide is a hydrogen storage alloy.

With respect to claim 38:

The AAPA further made known that Korean publications 10-2001-86569 and 10-2001-18726 discloses the use of metallic threads and metal fibers as catalyst holding body (*See applicant's specification on page 7, lines 17-21, or page 10, lines 2-6 and lines 20-24*).

With respect to claims 35 and 41:

The AAPA makes known an electrode structure including a foam body 23 made of Ni and a mesh 24 made of Ni enclosing the foam body 23 (*See applicant's specification on page 3, lines 10-25/ FIGURE 2*). In this case, it is contended that either or both the foam body 23 and the mesh 24 act(s) as the claimed catalyst holding body. Moreover, since the foam body 23 and the enclosing mesh are made of Ni, it is further contended that they represent a Ni-material contacting the electrode catalyst, thereby they serve as the claimed Ni layer.

With respect to claims 42-43:

The AAPA uses polytetrafluoroethylene 22 to make the electrode (*See applicant's specification on page 3, lines 10-25/ FIGURE 2*).

Art Unit: 1745

Therefore, the claims are anticipated by the AAPA. However, if the claims are not anticipated the claims are obvious as it has been held similar products claimed in product-by-process limitations are obvious *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972) and *In re Fessmann*, 489 F.2d 742, 744 180 USPQ 324, 326 (CCPA 1974); See also *In re Best*, 195 USPQ 430 (CCPA 1977) [prove that prior art products do not necessarily or inherently possess characteristics] & *Ex parte Gray*, 10 USPQ2d 1922 (BPAI 1989) [needs to show that the claimed process imparts unexpected property or structure] (Refer to MPEP 2113: Product-by-Process Claims).

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. (At least) Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Moy et al 2004/0162216.

Moy et al disclose a catalytic material comprising catalysts and a catalyst support being entangled with the catalyst (ABSTRACT/ CLAIMS 55, 57 & 62).

Therefore, the present claim is anticipated.

Art Unit: 1745

17. (*At least*) Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida et al 2003/0091891.

Yoshida et al discloses catalyst composition for a cell comprising a catalyst-bearing conductive powder particles and fibrous carbon (ABSTRACT). Specifically, Yoshida et al discloses catalyst particles and a fiber filament being entangled therewith (P0069).

Examiner's note: *"Arguments that the alleged anticipatory prior art is nonanalogous art' or teaches away from the invention' or is not recognized as solving the problem solved by the claimed invention, [are] not germane' to a rejection under section 102." Twin Disc, Inc. v. United States, 231 USPQ 417, 424 (Cl. Ct. 1986) (quoting In re Self, 671 F.2d 1344, 213 USPQ 1, 7 (CCPA 1982)). See also State Contracting & Eng'g Corp. v. Condotte America, Inc., 346 F.3d 1057, 1068, 68 USPQ2d 1481, 1488 (Fed. Cir.2003). See MPEP 2131.05 [R-5] Nonanalogous or Disparaging Prior Art.*

Therefore, the present claim is anticipated.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 1745

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. Claims 3 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admission of Prior Art (heretofore the AAPA) (*US Patent Application Publication 2005/0130026 is referenced herein as its disclosure is identical to applicant's specification*) as applied to claim 1 above, and further in view of Blum et al 2003/0059665.

The AAPA is applied, argued and incorporated herein for the reasons discussed above. However, the preceding reference does not expressly disclose the specific electrode catalyst in the form of a filament or formed of fine fibers.

Blum et al disclose an electrode arrangement for an electrochemical cell comprising a fiber or filament-like catalytic material (P0041-0042).

In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to use the specific the specific electrode catalyst in the form of a filament or formed of fine fibers of Blum et al in the electrode of the AAPA as Blum et al teach that such an electrode catalyst (i.e. filament/fine fibers) provides a mechanically stable reacting area that can be subjected to high electrical loads. *In this instance, the teachings of Blum et al are found to be pertinent to both the AAPA and the field of applicant's endeavor as Blum et al address the same problem of providing suitable electrode structures comprising a catalyst-catalyst holding arrangement.*

Art Unit: 1745

21. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admission of Prior Art (heretofore the AAPA) (*US Patent Application Publication 2005/0130026 is referenced herein as its disclosure is identical to applicant's specification*) as applied to claim 38 above, and further in view of Schlomer et al 3811976

The AAPA is applied, argued and incorporated herein for the reasons discussed above. However, the preceding reference does not expressly disclose the specific fiber length.

Schlomer et al disclose metal fiber felts used with advantage particularly in electrodes and in catalyst units because of their large surface coupled with good strength, flexibility and very uniform distribution (COL 1, lines 39-46 & lines 25-27). Schlomer et al's metal fiber has an average length of 5 mm (5000 μ m) (COL 5, lines 40-45/ EXAMPLE).

In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to use the specific fiber length of the metal fiber of Schlomer et al in the electrode of the AAPA as Schlomer et al teach that the specified metal fiber can be used with advantage particularly in electrodes and in catalyst units because of their large surface coupled with good strength, flexibility and very uniform distribution (COL 1, lines 39-46 & lines 25-27). *In this case, Schlomer et al is fully relevant to both the AAPA and the field of applicant's endeavor because they discuss that their specific metal fiber is particularly advantageous in electrodes and in catalyst units, thereby they are concerned with exactly the same technical problem faced by both the AAPA and applicant.*

Art Unit: 1745

22. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admission of Prior Art (heretofore the AAPA) (*US Patent Application Publication 2005/0130026 is referenced herein as its disclosure is identical to applicant's specification*) as applied to claim 38 above, and further in view of Amamoto 2001/0003627

The AAPA is applied, argued and incorporated herein for the reasons discussed above. However, the preceding reference does not expressly disclose the specific fiber diameter.

Amamoto discloses metal or metal alloy fibers (ABSTRACT) having a diameter of about 5-30 μm used in various fields including as a catalyst carrier (P0005-0006, 0021, Examples 1-3).

In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to use the specific fiber diameter of the metal fiber of Amamoto in the electrode of the AAPA as Amamoto teaches that the specified metal fibers can be used as a catalyst carrier because it has a corrosion resistance higher than other catalyst carriers and has a larger specific surface area which is an important factor in the catalyst field due to the requirement of a surface area participant in the reaction.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raymond Alejandro
Primary Examiner
Art Unit 1745



RAYMOND ALEJANDRO
PRIMARY EXAMINER